

**AMENDMENTS TO THE CLAIMS**

**Please amend Claim 11 as indicated below.**

**Please add new Claims 20-27.**

A complete listing of all claims is presented below with insertions underlined (e.g., insertion), and deletions struckthrough or in double brackets (e.g., ~~deletion~~ or ~~[[deletion]]~~):

1.-10. (Cancelled)

11. (Currently Amended) A method for accelerating the production of a vaccine by an in vitro cell culture, the method comprising:

providing an in vitro cell culture comprising cells useful in production of a vaccine, the cells comprising bacteria useful for vaccines or animal cells containing viruses useful for vaccines; and

enhancing the in vitro cell culture by delivering an effective amount of electromagnetic energy to the in vitro cell culture, wherein delivering the effective amount of electromagnetic energy includes delivering electromagnetic energy having a power density of at least about 0.01 mW/cm<sup>2</sup> and a wavelength of about 780 nm to about 840 nm to the cells in the in vitro cell culture; ~~wherein the delivering the electromagnetic energy results in the enhancement or improvement of the in vitro cell culture.~~

12. (Original) A method according to Claim 11 wherein the power density is about 0.01 mW/cm<sup>2</sup> to about 100 mW/cm<sup>2</sup>.

13. (Original) A method according to Claim 12 wherein the power density is about 0.01 mW/cm<sup>2</sup> to about 15 mW/cm<sup>2</sup>.

14. (Cancelled)

15. (Cancelled)

16. (Original) A method according to Claim 11 wherein delivering comprises placing a light source above a top surface of a container holding a cell culture.

17. (Original) A method according to Claim 11 wherein delivering comprises delivering a series of pulses of light.

18. (Previously Presented) A method according to Claim 11 wherein delivering an effective amount of electromagnetic energy comprises at least two treatment periods.

19. (Previously Presented) A method according to Claim 11, wherein delivering an effective amount of electromagnetic energy proceeds for a period of about 30 seconds to about 2 hours.

20. (New) The method of Claim 11, wherein the cell culture is in a vessel comprising one or more sources of the electromagnetic energy.

21. (New) The method of Claim 20, wherein the vessel comprises a bioreactor.

22. (New) The method of Claim 21, wherein the one or more sources comprises a laser.

23. (New) The method of Claim 21, wherein the one or more sources are fixed to one or more inside surfaces of the vessel.

24. (New) The method of Claim 21, wherein the one or more sources are removable from the vessel.

25. (New) A method for accelerating the production of a vaccine by an in vitro cell culture, the method comprising:

providing a vessel containing an in vitro cell culture comprising cells useful in production of a vaccine;

delivering an effective amount of electromagnetic energy to the cells, wherein delivering the effective amount of electromagnetic energy includes delivering electromagnetic energy having a power density of at least about  $0.01 \text{ mW/cm}^2$  and a wavelength of about 780 nm to about 840 nm to the cells in the in vitro cell culture; and

manipulating the in vitro cell culture such that all the cells receive substantially equal energy.

26. (New) The method of Claim 25, wherein manipulating the in vitro cell culture comprises stirring the in vitro cell culture.

27. (New) A method for accelerating the production of a vaccine by an in vitro cell culture, the method comprising:

providing a vessel containing an in vitro cell culture comprising cells useful in production of a vaccine;

positioning a source of electromagnetic energy within the vessel; and

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delivering electromagnetic energy from the source to the cells, wherein the electromagnetic energy has a power density of at least about  $0.01 \text{ mW/cm}^2$  and a wavelength of about 780 nm to about 840 nm.